BULLETIN 467 NOVEMBER, 1930

Movement of Open Country Population in Ohio

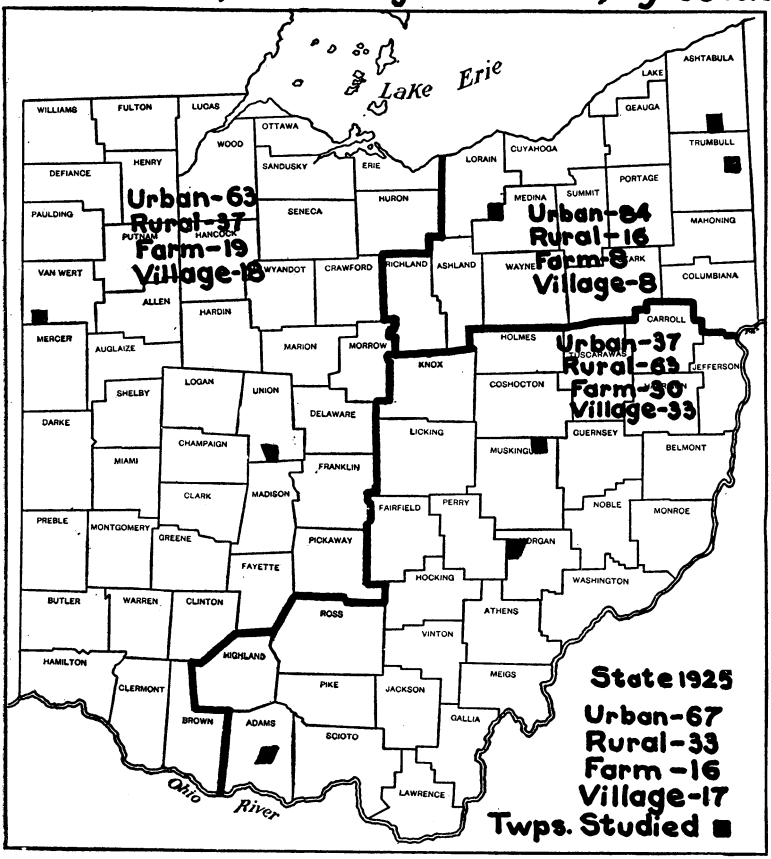
C. E. Lively and P. G. Beck

OHIO
AGRICULTURAL EXPERIMENT STATION
Wooster, Ohio

This page intentionally blank.

CONTENTS

Map 1. Location of the Townships Studied: Also Percentage of the Population Living in Urban, Rural, Farm, and Village Locations;-by Sections



MOVEMENT OF OPEN COUNTRY POPULATION IN OHIO

I. The Family Aspect[1]

C. E. LIVELY AND P. G. BECK

I. INTRODUCTION

For many years the movement of population from the farms and rural districts toward the towns and cities has been a subject of primary interest to the general public. Indeed, in times past many persons have considered the agricultural problem to be chiefly one of checking this exodus of population. But while it is now understood that some migration of population from the rural districts is not only inevitable but desirable, more recently this migration has been related to rural economic welfare in such a manner that it may be regarded as something of a barometer of the economic satisfaction or dissatisfaction of the farm population (1).

But while the gross migration of population away from the rural districts has received major attention, it has been by no means the only aspect of rural population movement to excite interest. For some time economists and others have concerned themselves with the movement of farm population from farm to farm, for it is evident that such population movement possesses both economic and sociological significance. The more recent interest in community organization has also stimulated some slight study of the shift of farm population from community to community (13, 14). Assumptions to the effect that rural-urban migrations are selective to the detriment of the rural districts have been common although these assumptions have been difficult to prove (14).

At present the economic and social effects of population mobility are only imperfectly understood and appreciated (13). The rural population offers excellent opportunity for the study of the phenomenon of mobility and its correlative factors. With a growing appreciation of the social significance of mobility, it is to be expected that the subject will receive an increasing amount of attention from rural economists and sociologists.

The present investigation was undertaken to arrive at a better understanding of the exact nature and extent of the mobility of the open country population in Ohio, both from the standpoint of the

[1]A second bulletin will deal with the individual aspect of population movement.

movements within the open country population itself, and from the standpoint of the shift of population away from the open country to other territory and occupations. The field work was begun during the year 1927 and proceeded until the three major regions of the state had been sampled. Preliminary mimeographed bulletins have been issued from time to time, summarizing pertinent data of a region (8, 9, and 10); this bulletin represents a summary and further analysis of the data presented in the mimeographs.

Method of study.—The study of the movements of a population both from one occupation to another and from place to place may be undertaken by various methods; for example, the movement of farmers from place to place (i. e. spatial mobility) may be studied by the investigator's taking a specific station such as a farm or community and noting the number of families and persons who go and come in a given period of time. Another method, one commonly used in the study of rural-urban migration, is to consider only those persons who migrate from the rural to the urban districts, or vice versa. A third method, not so commonly employed, is that of considering the mobility history of all those families and persons who are found living in a given area at a specified time. This method possesses certain advantages; namely, that when dealing with such a group as the farm population, intra- and inter-group mobility may both be studied at the same time, and the relationships of these two types of mobility to each other determined. Also, if both the parents and the adult children of the heads of the families so studied are included, it is possible to construct a brief picture of the mobility of three consecutive generations of people. This last is the method which was employed in the present study.

The state of Ohio may be divided into three rather distinct socio-economic areas or sections, based chiefly upon topography, occupation of the people, and degree of urbanization. Map 1 shows these sections as nearly as they can be indicated by following county lines, and shows the percentages of population which are urban, rural, and farm. The western section is the leading agricultural section of the State. It is for the most part level or rolling, with productive soil, and, except for a few, scattered, large cities, is chiefly agricultural in occupation.

The northeastern section contains a soil which is less favorable for agriculture, and is rapidly becoming one of the most highly urbanized areas in the United States. This area contains the industrial cities of Cleveland, Akron, Youngstown, and Canton, all cities of more than 100,000 population, as well as many other smaller industrial centers of considerable importance.

The southeastern section is chiefly rural and agricultural, but has much mining. Almost the entire area is hilly, much of it being quite unprofitable for agriculture. There are fertile valleys but they constitute a small percentage of the total area.

The method employed in this study was to sample each of these three general sections for population movement of the people found in typical sample areas. Since no prior information existed relative to variations in population mobility in various sections of the State, it was assumed in the selection of the areas studied that variation in the mobility of the open country population was correlated with these factors of physiography, occupation, and urbanization which determine the three major areas. The sampling procedure, therefore, was not proportional with respect to mobility but was somewhat proportional to the percentage of the total farm population of the State to be found in each section.

Within each section it was aimed to select sample areas which represented the various open country conditions as nearly as could be done with the time and means available. Eight such sample areas were selected and studied, each approximating a township in size, and each yielding, when all of the families were surveyed, from 100 to 260 schedules. Only families who lived in the open country (unincorporated territory) were visited. Unincorporated villages were also avoided, although at times it seemed both necessary and desirable to include small numbers of families who, while they lived in what might be termed strictly open country, were nevertheless congregated at cross-road centers and were only in part directly engaged in agriculture. In all, 1275 schedules were taken. Of these 1063 (82 per cent) were classified as farm families and 212 (18 per cent) as non-farm families. More than 50 per cent of these non-farm families were located in the northeastern section.

The content of the schedules taken included a complete mobility (occupational and spatial) history of each family since its formation, the birthplace and occupation of the parents of both operator and homemaker, and also a complete mobility record of all children of these families who had reached adulthood and had begun life independent of parental support. This body of data falls logically into two general sub-divisions; the family aspect and the individual aspect. This monograph deals only with an analysis of the mobility of the families concerned considered as units. A forthcoming publication will deal with an analysis of the mobility of the approximately 1600 adult children of these families, considered as individuals.

II. THE BACKGROUNDS OF MOBILITY

1. Population of the areas studied, 1840 to 1920.—Ohio was originally settled by people who migrated westward from the thirteen original colonies. Because of natural transportation facilities the early settlements were made along river valleys. Marietta (1788), Gallipolis (1792), and Manchester, all along the Ohio river, are among the oldest towns in the State. From the Ohio river valley settlers migrated northward up the Muskingum, Scioto, and Miami rivers. A large percentage of the early settlers were Virginians of English, Irish, and Scotch lineage. Immigrants from the New England states settled in the northeastern part of the State at a little later date (1799). Another important group of early immigrants in point of numbers were the Germans, many of whom came directly from their native land.

Ohio's country population continued to increase from the time of the early settlements until about 1850. From that time until today certain sections, particularly in the hill counties, have progressively declined in population. The more fertile sections of western Ohio did not show a decline until a much later date, most of them between 1880 and 1900. The same is true for the tobacco growing sections of southern Ohio. Many townships showed an actual decrease in the decade of 1860-1870, but it was only temporary. With the building of railroads after the Civil War and the opening of new homestead lands in the West, came a large emigration of farmers from Ohio westward. At a later date and extending well into the present century, a counter movement eastward took place. The westward movement did not stop, but the number coming into Ohio from such states as Indiana, Illinois, and Iowa was greater than the number leaving for more western locations. This counter movement was coincident with the phenomenal rise of land values in the West. Many farmers sold their farms at a good figure and bought land in Ohio where land was cheaper.

Most of the early settlers of the State were farmers or were engaged in occupations accessory to farming. But as cities sprang up and grew the rural population declined relatively until about 1900 when it began to show absolute loss. Since that time the rural population has continued to decrease.

The farm population has decreased in numbers over the period for which we have a separate tabulation of the group, 1920-1925. In 1910, approximately 26 per cent of Ohio's population lived on farms; in 1920, 20 per cent; and in 1925, about 16 per cent. These percentages represent a numerical decrease from 1,244,000 persons

in 1910 to 1,032,000 in 1925. Almost as many persons left farms between 1920 and 1925, as left during the ten years between 1910 and 1920. According to the Bureau of the Census, this migration from the farm has been much reduced during the past year or two.

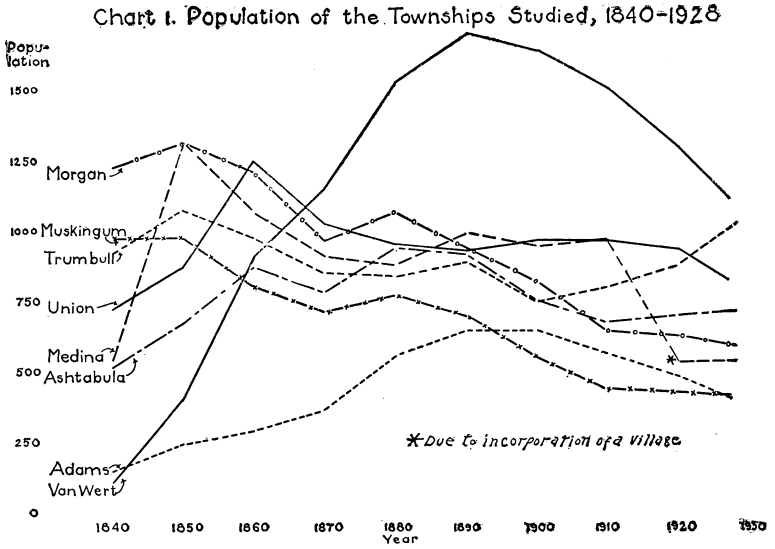
TABLE 1.—Open-Country Population of the Areas Studied, 1840-1927

	Year									
	1840	1850	1860	1870	1880	1890	1900	1910	1920	1927-1928
Western Section:	**853**	**1305**	**2199**	**2316**	**2524**	**2662**	**2630**	**2498**	**2257**	**1968**
Union County (Darby Twp.)....	736	881	1269	1142	971	945	980	981	950	842
Van Wert County (Liberty Twp.)	117	424	930	1174	1553	1717	1650	1517	1307	1126
Northeastern Section:	**2016**	**3113**	**2968**	**2600**	**2705**	**2855**	**2500**	**2496**	**2164**	**2292**
Ashtabula Co. (Colebrook Twp.)	530	688	890	800	956	943	773	696	719	726
Trumbull County (Fowler Twp).	935	1089	996	871	851	904	764	813	896	1024
Medina County (Spencer Twp.)..	551	1336	1082	929	898	1008	963	987	549	542
Southeastern Section:	**2379**	**2578**	**2357**	**2086**	**2444**	**2337**	**2065**	**1697**	**1584**	**1462**
Muskingum Co. (Adams Twp.)..	988	998	822	727	785	717	568	454	438	430
Morgan County (Deerfield Twp.)	1235	1325	1228	981	1085	962	839	664	647	612
Adams Co. (Brush Creek Twp.).	156	255	307	378	574	658	658	579	499	420
Total--All Sections.....	**5248**	**6996**	**7524**	**7002**	**7673**	**7854**	**7195**	**6691**	**6005**	**5722**

Of the eight sample areas studied, six show similar population change—a steady decline with minor fluctuations—since about 1850. The two exceptions to this are the Van Wert area in the western section and the Adams area in the southeastern section. The former is representative of a large area in that part of the State which was settled comparatively late in Ohio history due largely to the swampy nature of the land. The latter represents the rough, hilly section in southern Ohio that has been able to support a fairly large population because of the intensive tobacco culture practiced there. Table 1 and Graph 1 illustrate in detail the changes that have taken place. It is probable that the population of most of these areas will continue to decrease slightly for some time, although slight increases in open country population are to be expected in some parts of the northeastern section because of the migration of urban workers to the open country for home sites. The largest decreases are to be expected in areas similar to that in Adams County. Large areas in that section have been completely abandoned as farm lands and all the information available points to large decreases in the future.

2. Vital statistics.—Facts relative to the vital condition of the population studied are presented in Table 2. The birth rates, as so computed, give the western section a higher average rate and the remaining two sections lower average rates for the period than

the rate for the State, which was 20.5 for the corresponding period. These birth rates are crude ones and are not adjusted to age differences in the population. Were this done, the rates for the open country population would be found to be higher than those for the State as a whole.



The death rates, which are also crude rates, are lower for the open country population studied than for the entire State, which was 11.5 for the corresponding period. Because of the difference in expectancy of life of country and city people in favor of the former, some difference here is to be expected. However, the rates for the open country areas may be unduly low due to the migration of retired farmers out of the areas in question. In fact, the death rate as computed for one of the sample areas in the southeastern section was too low to be explained on any other grounds.

These crude birth and death rates give an average natural increase rate of 14.0 persons per thousand for the western section and 7.2 and 7.9 persons per thousand for the northeastern and southeastern sections, respectively. The corresponding natural increase rate for the State is 9.0 persons per thousand, although this rate fell rapidly during 1927 and 1928, reaching 7.4 and 5.8, respectively, due to a decline in the birth rate.

Applying Pearl's Vital Index[2] to these sections it is found that the indices varied considerably from the state average. The corresponding index for the State is 179.0.

These rates and indices are at best crude measures and not strictly comparable. It is true, however, that the rates for the sample areas included within each section of the State agreed quite closely except for those areas in the southeastern section, where in the better areas the older farmers retire from the open country; while in the poorer areas they retire on the farms. Also, the poorest sample area of this section showed a birth rate so low for certain years as to make the accuracy of the reporting somewhat questionable.

TABLE 2.—Births, Deaths, and Natural Increase of Population in the Townships Studied, 1921-1928*

	Western Section			Northeastern Section			Southeastern Section			Total		
	Births	Deaths	Natural increase	Births	Deaths	Natural increase	Births	Deaths	Natural increase	Births	Deaths	Natural increase
Total.....	367	136	231	315	187	128	196	102	94	878	425	453
Yearly av.....	46	17	29	39	23	16	25	13	12	110	53	57
Rate†.....	22.2	8.2	14.0	17.7	10.5	7.2	16.4	8.5	7.9	19.1	9.1	10.0
Population.....	2076			2200			1528			5804		
Pearl's Vital Index.....	270			168			192			207		

*Data furnished by Ohio State Department of Health, Division of Vital Statistics.
†Per 1000 population living at mid-point of the 8-year period.

The total number of households visited in each section of the State, the total number of persons in these households, and the average number of persons per household are indicated in Table 3. The average size of household was 4.2 persons, a figure which was quite constant for the three sections. Considerable difference existed between the average size of household for the native born population (4.1 persons) and for the foreign born population (5.6). This difference was due partly to a larger number of children born among the latter group and partly to differences in age distribution of the heads of families of the two groups. The foreign-born heads of families averaged younger than the native-born, and hence, as in the case of renters, a larger proportion of their children were still at home.

[2] $\frac{100 \text{ times Births}}{\text{Deaths}}$

TABLE 3.—Number of Persons and Households, and Average Size of Household, by Occupation and Tenure

	Total			Western Section			Northeastern Section			Southeastern Section		
	Persons	House-holds	Persons per H-hold	Persons	House-holds	Persons per H-hold	Persons	House-holds	Persons per H-hold	Persons	House-holds	Persons per H-hold
Grand Total	**5318**	**1275**	**4.2**	**1935**	**465**	**4.2**	**2154**	**511**	**4.2**	**1229**	**299**	**4.1**
Farmer	4453	1063	4.2	1607	391	4.1	1744	401	4.3	1102	271	4.1
Owner	3288	804	4.1	1005	259	3.9	1471	344	4.3	812	201	4.0
Renter	1165	259	4.5	602	132	4.6	273	57	4.8	290	70	4.1
Non-farmer	865	212	4.1	328	74	4.4	410	110	3.7	127	28	4.5
Native Total	**4762**	**1175**	**4.1**	**1935**	**465**	**4.2**	**1598**	**411**	**3.9**	**1229**	**299**	**4.1**
Farmer	3938	974	4.0	1607	391	4.1	1229	312	3.9	1102	271	4.1
Owner	2823	723	3.9	1005	259	3.9	1006	263	3.8	812	201	4.0
Renter	1115	251	4.4	602	132	4.6	223	49	4.6	290	70	4.1
Non-farmer	824	201	4.1	328	74	4.4	369	99	3.7	127	28	4.5
Foreign Total*	**556**	**100**	**5.6**	.....	.....	.....	**556**	**100**	**5.6**	.....	.....	.....
Farmer	515	89	5.8	.....	.....	.....	515	89	5.8	.....	.....	.....
Owner	465	81	5.7	.....	.....	.....	465	81	5.7	.....	.....	.....
Renter	50	8	6.2	.....	.....	.....	50	8	6.2	.....	.....	.....
Non-farmer	41	11	3.7	.....	.....	.....	41	11	3.7	.....	.....	.....

*Does not include five foreign households in the Western and Southeastern Sections.

As may be noted from Table 3 owner households were slightly smaller than the general average, and renter households somewhat larger. The foreign-born renter households averaged 6.2 persons.

In Table 4 may be found a comparison of the native- and foreign-born groups of farmers in the three sections of the State with respect to the number of households visited, the total number of children born, and the total number living. It will be noted that of the native farmers, the northeastern section had the fewest children per 100 households[3], while the southeastern section had most. Nevertheless, the three sections did not differ greatly in this respect. They were also quite homogeneous with respect to the percentage of children still living, the percentages being 92, 93, and 88, respectively, for the western, northeastern, and southeastern sections. The foreign-born group, however, in spite of the fact that the mothers averaged considerably younger than the native-born mothers, had given birth to 448 children per 100 households, of which 94 per cent were living at the time of the survey.

TABLE 4.—Number of Households, Children Born, and Children Living

Item	Total	Native Farmers				Foreign-born Farmers	Non-farmers
		Total	Western Section	North-eastern Section	South-eastern Section		
No. of H-holds...	1275	974	391	312	271	89	212
No. of children							
Born, total.....	4356	3344	1391	968	985	399	613
Per 100 H-holds..	342	343	356	310	363	448	289
Living, total....	3970	3041	1279	894	868	374	555
Per 100 H-holds..	311	312	327	287	320	420	262

That the birth rate among native farmers has been declining cannot be doubted. In each section of the State all of the mothers who were 45 years of age or more, and who were still living with their husbands, were grouped together and the number of children ever born to them was compared with the number born to their mothers (8, 9, and 10). None of the foreign-born mothers fell into this group.

[3]This is slightly different from number of children born per 100 mothers because of a certain number of male parents who had two sets of children.

The number of children born to the mothers of these two generations was as follows:

	Total	Western section	Northeastern section	Southeastern section
Maternal generation	6.4	7.2	5.3	6.6
Present generation	4.2	5.1	3.3	4.3
Unweighted percentage decrease	34	29	38	35

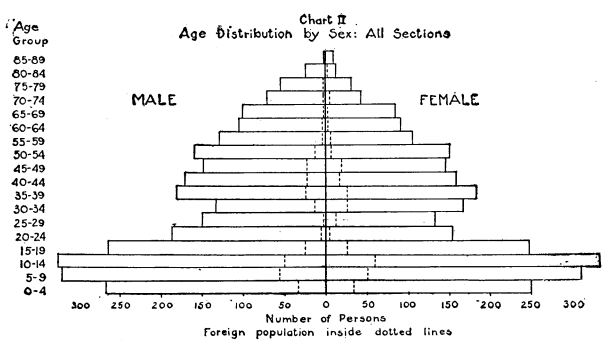
The difference in number of children born to the mothers of these two generations as indicated by this sample of 200 mothers of the present generation represents a decrease of about one-third. These figures are probably conservative as the mother of the present generation would be more likely to have reported her own children accurately than those of her mother, particularly those who died in infancy. Also, it is not known whether the mothers of the earlier generation all lived in the married state until the age of 45 years.

3. Races and peoples.—Practically all of the population of the western section was of native birth. The majority was descended from old line American stock, with German people of about three generations residence a close second in numbers. Many communities in this section had a population of almost pure German lines of descent and many of them retained their mother tongue in addition to the English language. Two negro families were found in this section.

The northeastern section possesses the most polyglot of all the populations studied. The section was originally settled chiefly by migrants from Pennsylvania and Connecticut, who were of English, Irish, and Scotch descent. During the past 20 years, however, there has been an influx of foreign-born peoples into this section. One area studied in this section (Ashtabula) had a population that was 44 per cent foreign-born or native-born of foreign parentage. Of the 515 households 101 were of foreign extraction; i. e., one or both parents were foreign born. The mother country of each of the foreign-born persons was obtained with the following results: Of the 101 persons, 32 were Polish, 20 Hungarian (Magyar), 12 unclassified Slav, 7 German, 4 Ukrainian, 4 Italian, 3 Lithuanian, 3 Roumanian, 3 Croatian, 2 Czech, 2 Scotch, 2 Dutch (Holland), 2 Bohemian, and one each of English, Swedish, Swiss, Norwegian, and Irish birth. This is the only section in which the population surveyed was divided into native and foreign groups. The foreign

group, as indicated in Table 3, included the members of all families in which one or both of the parents (heads of families) were foreign born.

The southeastern section revealed the highest percentage of native born population of any of the three sections of the State. Most of this population is made up of descendants of immigrants from Virginia, Pennsylvania, and Kentucky. Here are found some of the oldest white settlements in Ohio; many of the townships of this section had a larger population in 1830 than they have today. As in many other parts of Ohio there is a generous sprinkling of German people most of whom came in after 1830. A few negro families were found in the sample areas of this section, and other parts of this section have large negro settlements. The farm population of one county (Gallia) was 6 per cent negro in 1925. Most of the recent immigration into this section has been from the mountainous regions of West Virginia and Kentucky. See Table 3 for the significance of the foreign-born population in this study.



4. Age and sex distribution.—As has been found true of open country and farm populations generally in the United States (16), it was found that the age distribution of the population of the areas studied was characterized by a deficiency of persons in the producing age groups, particularly between the ages of 20 and 35 years. There were relatively fewer persons under 5 years of age than in the 5-9 and 10-19 year groups. There were also fewer persons in the 5-9 year age group than in the 10-14 year group, Table 5 and Chart 2. The age pyramid of a normal population with no emigration or immigration should be widest at the bottom, tapering gradually through each age group to the top. The concavity occurring in the 15 to 40 year age groups is largely due to emigra-

tion. The relatively small number of persons in the group under 5 years of age might be due to accelerated migration, to a rapidly falling birth rate, to an abnormally high infant mortality, or to inaccurate enumeration. This phenomenon, when observed in the United States Census (16), has been credited to faulty enumeration. The authors of this study were aware of this seeming inconsistency and as a result were particularly careful in enumerating children under 10 years of age to get the exact age and to include all children of the household. This precaution, coupled with the fact that there were also fewer persons in the 5-9 year age group than in the 10-14 group, leads one to conclude that the situation indicated by the figures is the actual one, and that it is probably due to three factors: 1, a declining birth rate; 2, the migration of households containing children under ten years of age; and 3, the migration of young adults of marriageable age, who if they had remained in the country would presumably have married and become the parents of children who would have been listed in these lower age groups (18). The field work for this monograph was done during the years 1927-28, immediately after the greatest exodus of population from the rural sections that has ever occurred in the United States. This exodus served to accentuate an already declining birth rate with the results depicted.

TABLE 5.—Age and Sex Distribution; Total and Foreign Population

Age group	Number of persons									
	Grand total all sections		Foreign all sections		Total Western Section		Total Northeastern Section		Total Southeastern Section	
	M.	*F.*	*M.*	*F.*	*M.*	*F.*	*M.*	*F.*	*M.*	*F.*
Under 5	267	249	32	32	115	86	99	103	53	60
5- 9	319	303	55	49	105	102	136	134	78	67
10-14	327	326	51	59	117	110	139	140	71	76
15-19	267	246	25	26	100	106	96	92	71	48
20-24	183	150	7	4	77	53	55	53	49	34
25-29	147	130	3	14	63	55	53	49	31	26
30-34	136	165	12	24	52	61	52	66	37	38
35-39	178	180	24	25	63	72	86	84	29	24
40-44	166	156	22	13	57	57	74	62	35	39
45-49	145	141	23	15	42	49	67	57	36	35
50-54	159	146	11	5	52	45	63	60	44	41
55-59	127	102	3	4	50	36	45	37	32	29
60-64	102	88	3	2	38	35	41	37	23	16
65-69	96	81	2	1	37	25	35	40	24	16
70-74	66	41	3	3	20	13	27	14	19	14
75-79	54	31	1	0	15	4	20	17	19	10
80-84	22	11	0	1	7	3	12	7	3	1
85-	4	7	0	0	3	5	1	1	0	1
Total	**2765**	**2553**	**279**	**277**	**1010**	**925**	**1101**	**1053**	**654**	**575**
Males per 100 females	108		101		109		105		114	

It may be noted from Chart 2 that the age distribution of the foreign-born element of the population surveyed was similar to that of the native population. While the native population lost heavily due to emigration, the foreign-born group were immigrants from the industrial centers. Consequently the latter group was composed of adults in the producing age groups, chiefly under 50 years, together with their children who were mostly under 20 years of age (9).

The sex ratio for the 5318 persons included in this study was 108 males to 100 females. The sex ratio of the farm population of the United States in 1920 was 109 to 100. This ratio was lowest (105:100) in the northeastern section and highest (114:100) in the southeastern section. Since there was little or no emigration from the foreign-born group the ratio for this group was 101 males to 100 females. The surplus of males among the native population was due largely to the fact that a higher proportion of females migrate from the rural districts than do males. The surplus of males in the adult age groups was very pronounced, Table 5.

5. **Occupation.**—Table 5 shows the proportion of the households engaged in agricultural and non-agricultural occupations, classified according to the occupations of the heads of families. Thus classified, 82 per cent were farmers, 75 per cent of whom were owners and 25 per cent renters; 18 per cent were non-farmers. A farmer was defined as a person who operates a farm, and farm was defined in accordance with the definition used by the Agricultural Census of 1925. The proportion of farm households was highest (91 per cent) in the southeastern hill section where opportunities to enter non-agricultural occupations and reside in the open country were scarce, and lowest in the northeastern section where proximity to industrial centers offered considerable opportunity for non-agricultural activities (8, 9, and 10).

Sixteen per cent of the heads of farm households were found to have occupations supplementary to farming, the lowest proportion being in the southeastern section (8 per cent), and the highest proportion in the northeastern section (27 per cent). A supplementary occupation was defined in a rather loose manner as one which is followed regularly or for a considerable portion of the time, and from which an income is derived. Typical examples of such supplementary occupations found are driving a school bus, carpentry, running a commercial milk route, operating a saw mill, blacksmithing, preaching, and working for Ohio State Highway Department.

In addition to these variations in the occupation of the heads of households in the various sections surveyed, it should be pointed out that in the more purely agricultural western and southeastern sections the occupational status of the entire population may be inferred from the occupations of the heads of households; that is, if a man farmed, the other members of his household, as a rule, also farmed. But in the urbanized and industralized northeastern section, it was not uncommon for one or more adult sons or daughters who were living at home on the farm to be employed in urban business or industry. This condition further increased the occupational heterogeneity of the open country population of this section.

TABLE 6.—Occupation and Tenure of Households, and Number and Per Cent of Farmers With Supplementary Occupation

Occupation	Households							
	Total		Western Section		Northeastern Section		Southeastern Section	
	No.	*Per cent*	*No.*	*Per cent*	*No.*	*Per cent*	*No.*	*Per cent*
Total	**1275**	**100**	**465**	**100**	**511**	**100**	**299**	**100**
Farmer	1063	83	391	84	401	78	271	91
Owner	804	63	259	56	344	67	201	68
Renter	259	20	132	28	57	11	70	23
Non-farmer	212	17	74	16	110	22	28	9
Farming only	894	84	351	90	294	73	249	92
Farming with supplementary occupation	169	16	40	10	107	27	22	8

These facts decidedly support the conclusions that urbanization of an area tends to increase both the proportion of open country population engaged in non-agricultural occupations, and the proportion of farmers who find supplementary sources of income which are non-agricultural.

III. THE NATURE AND EXTENT OF POPULATION MOVEMENT

In considering the nature and extent of the occupational and spatial movement of the families studied, the individual approach cannot be entirely avoided, but the aim is to treat the families as units. The period of consideration is that intervening between the formation of the household and the time of the survey. While there is a close relation between occupational and spatial mobility, it is necessary to separate them for purposes of discussion.

1. Occupational movement.—In a society composed of open classes, such as that of the United States, the inter-occupational circulation of the population is considerable. Furthermore, exist-

ing evidence seems to indicate that such circulation is on the increase (13). With respect to the farm population, the proportion of adult persons born and reared on farms who enter the non-agricultural occupations has increased during the last fifty years[4]. Most studies of the occupational mobility of the rural population have concerned themselves with this shift in occupation coincident with the shift from country to city and the reverse. Little is known of the nature and extent of the occupational shifts among the population which remains in the open country. In the present investigation the attempt was made to include both.

The occupational origin of the operators and homemakers, heads of the farm families studied, is given in Table 7. It may be seen from this table that the most probable parentage of farm operators is farm parentage. The sons of non-farm-laborer families became farm operators more often than the sons of farm laborers. The sons of business, clerical, and professional families seldom became farm operators. The variation between the western and southeastern sections was slight. The northeastern section showed a lower percentage (85) of the operators to be of farm origin and a correspondingly higher percentage from other occupations; this section includes the foreign-born group. Eighty-seven per cent of these operators as compared with 85 per cent of the total operators were of farm origin. Hence, it must be concluded that the urbanization and industrialization of this section have resulted in a greater occupational mobility of the farm population.

Of the homemakers, 85.6 per cent were of farm origin. Fewer homemakers came from farm families, but more from laborer families and from the business, clerical, and professional groups than in the case of the operators.

There were some significant differences in inter-occupational mobility however. The farm population, which must be regarded as having a surplus of both males and females, apparently contributed about the same proportion of males and females to the non-farm population of the open country, Table 8. On the other hand, of the males and females who circulated from non-agricultural occupations into the occupation of farming, the ratio of

[4]Since the rural and farm birth rate have fallen during this period and since the volume of migration from the farms and rural districts to the towns and cities has increased, the logic of the situation compels this conclusion which may also be arrived at through a consideration of the size of the farm population, the number of farms, and the average number of persons per farm household.

females to males was two to one, Table 7. This is true because the inherited farm is more often farmed by a son than by a daughter, Tables 24 and 25, and because more females than males leave farming for other occupations. The intersectional variation is similar to that of operators, but the figures suggest that the urbanization and industrialization of the northeastern section has had the effect of increasing the occupational mobility of the females more than that of the males of the farm population.

TABLE 7.—Occupation of Parents of Operators and Homemakers of Farm Households

Occupation of parents	Total		Western Section		Northeastern Section		Southeastern Section	
	No.	*Per cent*	*No.*	*Per cent*	*No.*	*Per cent*	*No.*	*Per cent*
Operators								
Total	**1012**	**100.0**	**376**	**100.0**	**377**	**100.0**	**259**	**100.0**
Farmer	937	92.7*	366	97.5	318	84.5	253	97.5
Non-farmer	75	7.3	10	2.5	59	15.5	6	2.5
Laborer	57	5.6	7	2.0	45	12.0	5	2.0
Farm	5	0.5	2	0.5	2	0.5	1	0.5
Other	52	5.1	5	1.5	43	11.5	4	1.5
Business	10	0.9	1	0.0	8	2.0	1	0.5
Clerical	0	0.0	0	0.0	0	0.0	0	0.0
Professional	8	0.8	2	0.5	6	1.5	0	0.0
Homemakers								
Total	**972**	**100.0**	**365**	**100.0**	**365**	**100.0**	**242**	**100.0**
Farmer	832	85.6*	332	91.0	276	75.5	224	92.5
Non-farmer	140	14.4	33	9.0	89	24.5	18	7.5
Laborer	100	10.3	22	6.0	63	17.5	15	6.5
Farm	11	1.1	5	1.5	2	0.5	4	2.0
Other	89	9.2	17	4.5	61	17.0	11	4.5
Business	30	3.1	7	2.0	21	6.0	2	1.0
Clerical	2	0.2	0	0.0	1	0.5	1	0.5
Professional	8	0.8	4	1.0	4	1.0	0	0.0

*87 per cent of the foreign operators and 80 per cent of the foreign homemakers were of farm origin.

From Tables 7 and 8 it may be computed that 90 per cent of the male and 83 per cent of the female heads of open-country households were born and reared in farm families. This is probably a fair average for the State. In the more purely agricultural areas these percentages will run higher, about 95 and 90 per cent, respectively; but in the industrial-urban areas they will average from 15 to 20 points lower.

TABLE 8.—Non-farmers: Occupation of Parents of Heads of Households

Occupation of parents	Heads of households			
	Male		Female	
	No.	*Per cent*	*No.*	*Per cent*
Total	**200**	**100**	**192**	**100**
Farmer	148	74	134	70
Non-farmer	52	26	58	30
Laborer	36	18	41	21
Farm	3	2	3	1
Other	33	16	38	20
Business	9	5	11	6
Clerical	2	1	1	*
Professional	5	2	5	3

*Less than one per cent.

Another picture of the occupational mobility of the open country population may be obtained by considering the occupational shifts of the families surveyed from the time these families (households) were established until the time of the survey. Table 9 shows that of the 1275 households surveyed 61 per cent had farmed from the time of their inception[5]; 22 per cent had tried some other occupation at least once but were farming at the time of the survey. Of the 17 per cent who were not farming at the time of the survey, 4 per cent had farmed at some time since establishing a household. Thus, four and a half times as many families had left farming and returned to it as had left it and remained in the open country otherwise employed. In other words those families who leave farming are likely also to leave the open country.

TABLE 9.—Occupational History of the Households Studied

	Number and per cent of households							
	Total		Western Section		Northeastern Section		Southeastern Section	
	No.	*Per cent*	*No.*	*Per cent*	*No.*	*Per cent*	*No.*	*Per cent*
Total group	**1275**	**100**	**465**	**100**	**511**	**100**	**299**	**100**
Always farmed	781	61	330	71	229	45	222	74
Farming, but have had other occupation	282	22*	61	13	172	34†	49	17
Never farmed	163	13	58	13	84	16	21	7
Have farmed but now in other occupation	49	4	16	3	26	5	7	2

*Native white 16 per cent.
†Foreign born 77 per cent; Native 23 per cent.

The inter-sectional variation in this respect was considerable. The western and southeastern sections were very similar, but in the northeastern section much greater mobility was indicated. The number that had worked at some other occupation was greatly influenced by the foreign-born group, among which 77 per cent of the households had worked at some other occupation. The corresponding percentage for native-born households was 23. Thus, the proportion of open country families that have followed the single occupation of farming since their formation varies from about 75 per cent in the more purely agricultural sections to about 45 per cent in the most urbanized and industrialized areas. Further, the proportion of open country families which have never farmed constitutes from about 5 to 15 per cent, the proportion increasing with urbanization. Also, the proportion of open country families which circulate from farming into other occupations and back again, and which leave farming but remain in the open

[5]Since formation of the household as a separate economic unit, usually by marriage.

country otherwise employed varies from 20 to 40 per cent of the total number of open country families and increases as the urbanization and industrialization of the area increase.

The number of children in the families surveyed who had attained an age of 18 years or more and the number of these children who were not at home at the time of the survey are indicated in Table 10.

TABLE 10.—Children 18 Years of Age and Over; Total Number Away From Home

Item	Grand total	Native farmers				Foreign born farmers	Non-farmers
		Total	Western Section	North-eastern Section	South-eastern Section		
Number of households	1275	974	391	312	271	89	212
Children 18 and over:							
Total number	2032	1730	769	503	458	75	227
Per 100 households	160	178	197	161	169	84	107
Children 18 and over:							
Away from home, total	1497	1282	591	361	330	52	163
Per 100 households	117	132	151	115	122	59	77

The total number of adult children who had ceased to be dependent upon the parents for support and were considered by the parents to have "started for themselves" is indicated in Table 11. There were 1596 of these children. This group is not identical with the group of children 18 years and over who were away from home, for some children below the age of 18 had started for themselves, and some who were over 18 had not. Others had started for themselves but were still living at home.

TABLE 11.—Number of Children Who Had Started for Themselves, and Number and Per Cent Farming

	All Sections		Western Section		Northeastern Section		Southeastern Section	
	Total children	Children farming	Total children	Children farming	Total children	Children farming	Total children	Children farming
Total children:								
Number	1596	546	631	256	571	108	394	182
Per cent	100	34	100	41	100	19	100	46
Males: number	798	287	314	135	275	55	209	97
Per cent	100	36	100	43	100	20	100	47
Females: number	798	259	317	121	296	53	185	85
Per cent	100	32	100	38	100	18	100	46

Table 11 also shows the percentage of these children who had started for themselves and had entered upon farming as an occupation. It will be noted that the percentage of males who were farming varied greatly in the three sections of the state. A smaller

percentage of females[6] than males was engaged in farming, the difference being a consistent, though varying one in all sections of the State. The more strictly agricultural sections contributed more than twice as large a proportion of their grown children to the occupation of farming as did the urban-industrial northeastern section.

Table 12 shows further difference in the rate at which males and females enter, or remain, in the occupation of farming. Females show a greater inter-occupational mobility than males. Of the sons of owners, 41 per cent became farmers; while only 36 per cent of renters' sons and 11 per cent of the sons of non-farmers became farmers.

TABLE 12.—Occupation of Adult Children by Occupation and Tenure of Parents

Occupation of parents	Number			Per cent		
	Total	Farmer	Non-farmer	Total	Farmer	Non-farmer
Occupation of adult male children						
Total	798	287	511	100	36	64
Farmer	668	273	395	100	41	59
Owner	601	249	352	100	41	59
Renter	67	24	43	100	36	64
Non-farmer	130	14	116	100	11	89
Occupation of adult female children						
Total	798	259	539	100	32	68
Farmer	681	236	445	100	35	65
Owner	601	206	395	100	34	66
Renter	80	30	50	100	37	63
Non-farmer	117	23	94	100	20	80

These data furnish additional evidence that, first, the inter-occupational mobility of females is greater than that of males. As a result a smaller proportion of females who are born and reared in agriculture remain in the occupation, and a higher proportion of females who are born and reared in non-agricultural occupations enter farming than is the case with males. Second, the proportion of farm reared persons who enter farming as an occupation has been decreasing during the last half century; and third, urbanization and industrialization of an area greatly reduce the proportion of adult children who enter farming and apparently affect both sexes similarly.

[6]If a female was married she was classified according to the occupation of her husband.

2. Spatial movement.—In this section the families under discussion are considered from the standpoint of their movement in space; i. e., their territorial mobility. It is of interest at the outset to know something of the spatial origin of the persons who united to form the households under consideration. Table 13 shows the birthplace of the operators and homemakers of the farm households with respect to certain geographic lines or areas; that is, place of birth was tabulated into five groups so as to indicate distance from the place at which the family was visited by the investigator. These groups are: 1, the farm on which the family was then living; 2, the sample area, approximating a township in size, in which the family was living; 3, the county in which the family lived; 4, the state of Ohio; and 5, all other territory outside the State, including foreign territory.

TABLE 13.—Farmers: Place of Birth in Relation to Present Residence

Place of birth	Total		Western Section		Northeastern Section		Southeastern Section	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Number and percentage of operators								
Same farm	137	14	74	20	34	9	29	11
Township	465	46	226	60	87	23	152	59
County	623	62	297	79	117	31	209	81
State	818	81	357	95	219	58	242	93
U. S.	901	89	373	99	270	72	258	99
Total	1012	100	376	100	377	100	259	100
Number and percentage of homemakers								
Same farm	34	4	10	3	13	4	11	5
Township	356	37	180	49	63	17	113	47
County	562	58	279	76	96	26	187	77
State	769	79	346	95	197	54	226	93
U. S.	870	90	360	99	270	74	240	99
Total	972	100	365	100	365	100	242	100

The numbers and percentages are cumulative. That is, those persons who were born on the farm in which they were living at the time of the survey were also born in the sample area in which they were living.

The striking similarity of the figures for the western and southeastern sections should be noted. The difference between the percentages born on the farm on which they were living appears to be due to the fact that the western section is a much better farming region and the farm stays within the family through more than one generation more often than is the case in the southeastern section. Due to the number of foreign-born in the northeastern section the proportion of operators who were born on the farm and in the local areas in which they were living was low.

Homemakers were less indigenous to the farm, area, and county in which they were living than operators, but there was no difference in the percentages for the larger areas except in the case of the foreign-born.

TABLE 14.—Non-farmers: Place of Birth in Relation to Present Residence

Place of birth	Total		Farm laborers		Other non-farmers	
	Number	Per cent	Number	Per cent	Number	Per cent
Heads of households; male						
Present residence	11	6	3	7	8	5
Township	80	40	18	40	62	40
County	106	53	22	49	84	54
State	150	75	37	82	113	73
U. S.	192	96	42	93	150	97
Total	200	100	45	100	155	100
Heads of households; female						
Present residence	2	1	0	0	2	1
Township	60	31	14	33	46	31
County	100	52	23	55	77	51
State	149	78	34	81	115	77
U. S.	184	96	40	95	144	96
Total	192	100	42	100	150	100

The data of Table 14 indicate that there is close similarity between the operators and homemakers of the farm population and those of the farm laborer and other non-farm population with respect to place of birth.

TABLE 15.—Farmers: Place of Birth

Place of birth	Total		Western Section		Northeastern Section*		Southeastern Section	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Number and per cent of operators								
Total	1012	100.0	376	100.0	377	100.0	259	100.0
Open country	942	93.0	371	98.5	318	84.5	253	97.5
Village	35	3.5	4	1.0	27	7.0	4	1.5
City	35	3.5	1	0.5	32	8.5	2	1.0
Number and per cent of homemakers								
Total	972	100.0	365	100.0	365	100.0	242	100.0
Open country	879	90.4	347	95.0	299	82.0	233	96.5
Village	34	3.5	11	3.0	22	6.0	1	0.5
City	59	6.1	7	2.0	44	12.0	8	3.0

*Foreign Operators—84 per cent, 8 per cent, and 8 per cent.
Foreign Homemakers—79 per cent, 13 per cent, and 8 per cent.

Table 15 shows the birthplace of the operators and homemakers of the farm families with respect to open country, village, and city locations. Again the western and southeastern sections

were very similar. The proportions born in village and city were about the same in these two sections. The northeastern section showed a much lower percentage of both operators and homemakers born in the open country regardless of whether the native or foreign born were considered. In all sections a smaller percentage of the homemakers were born in the open country than of the operators.

If more than three-fourths of the farm operators and homemakers were born in the county in which they were living at the time of this survey, what of the places where they had lived since marriage, or since the formation of a household? Table 16 shows that in the agricultural western and southeastern sections of the State 80 per cent of the families had lived their entire time in the same county, 60 per cent had lived their entire time in the same township, and 25 to 30 per cent had lived on but one farm since marriage. The similarity of percentages for these two sections is pronounced. The northeastern section indicated much less stability, approximately one-half less having always lived in the same county, and in the same township. Here, again, urbanization and the foreign-born element of the population reduced the percentages.

TABLE 16.—Residence of Farm Households Since Formation

Always lived	Total		Western Section		Northeastern Section		Southeastern Section	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
On same farm	259	24	120	31	71	18	68	25
In same township	521	49	239	61	123	31	162	60
In same county	700	66	314	80	170	42	219	81
In same state	935	88	370	95	307	77	261	96
In the U. S.	1036	98	391	100	374	93	271	100
Total	1063	100	391	100	401	100	271	100
Stability index	100		157		44		148	

As a method of comparing areas and sections of the State with respect to population stability, a ratio index, or movement relative, was devised. The index, which is called an "index of stability", is merely the ratio of the number of households which had always lived in the area in question to the number of households who had not always lived in the area[7]. It will be noted from Table 16 that when applied to the township as an area the stability indices for the western and southeastern sections are very similar. The index for the northeastern section is low.

[7]If all of the families had lived outside the area in question the index would have been zero. If half of the families had lived elsewhere the index would have been 100.

There were only slight differences between the farm families and the farm laborer and other non-farm families with respect to where the family had lived since its formation.

TABLE 17.—Residence of Non-farm Households Since Formation

Always lived	Total		Farm laborers		Other non-farmers	
	Number	Per cent	Number	Per cent	Number	Per cent
Same residence	56	26	9	20	47	28
Same township	105	50	22	48	83	50
Same county	141	67	28	61	113	68
Same state	183	86	39	85	144	87
United States	208	98	45	98	163	98
Total	212	100	46	100	166	100
Stability index	98		92		100	

A comparison of the stability indices (on a township basis) shows that the stability of the farm-laborer and the other non-farmer group lies about midway between that of the agricultural sections of the State and that of the urban-industrial northeastern section.

TABLE 18.—Farmers: Number of Years on Present Farm, by Tenure

Years on present farm	Total		Western section		Northeastern section		Southeastern section	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Owners								
0- 4	162	20	45	17	94	27	23	11
5- 9	165	21	40	15	84	24	41	20
10-14	122	15	43	16	45	13	34	17
15-19	80	10	22	9	34	10	24	12
20-24	77	10	22	9	28	8	27	14
25-29	60	7	30	12	17	5	13	6
30-34	43	5	19	7	9	3	15	7
35-39	38	5	19	7	12	4	7	4
40-44	23	3	10	4	9	3	4	2
45-49	11	1	5	2	4	1	2	1
50-	23	3	4	2	8	2	11	6
Total	804	100	259	100	344	100	201	100
Renters								
0- 4	166	65	79	60	40	70	47	67
5- 9	47	18	28	21	9	16	10	15
10-14	27	10	14	11	4	7	9	13
15-19	10	4	8	6	2	3	0	0
20-24	5	2	3	2	0	0	2	3
25-29	2	.....	.....	.....	1	2	1	1
30-	2	.....	.....	.....	1	2	1	1
Total	259	100	132	100	57	100	70	100

The number of years farmers had lived on the farm occupied when interviewed is a frequently used measure of mobility and is consequently of interest here. Table 18 presents these facts. There appear to be some significant differences between sections of the State. In the urbanized northeastern section both owners and renters had been on the present farm a shorter length of time than in the other sections. On the whole, the western and southeastern sections were quite similar.

TABLE 19.—Farmers: Years on Present Farm; State of Ohio, 1925*

Years on present farm	Per cent in each group	
	Owners	Renters
0- 4	27.5	68.7
5- 9	18.5	16.3
10-14	14.7	7.7
15 and over	39.3	7.3
Total	100.0	100.0

*Census of Agriculture, 1925.

Table 19 gives comparative data regarding number of years on the present farm, taken from the 1925 Census of Agriculture for the state of Ohio. It is a bit surprising that these figures should more nearly approach those obtained by the survey in the northeastern urbanized section of the State, than those of the other two sections.

TABLE 20.—Farmers: Number of Moves by Tenure

Number moves	Total		Western Section		Northeastern Section		Southeastern Section	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Owners								
0	190	24	74	29	59	17	57	28
1	320	40	113	44	131	38	76	38
2	202	25	36	14	113	33	53	26
3	66	8	18	7	36	10	12	6
4	13	2	9	3	2	*	2	1
5	8	1	6	2	2	*	0	0
6	2	*	0	0	1	*	1	*
7	3	*	3	1	0	0	0	0
Total	804	100	259	100	344	100	201	100
Mean	1.3		1.3		1.4		1.2	
Renters								
0	69	27	46	35	12	21	11	16
1	59	23	26	20	18	32	15	21
2	57	22	17	13	16	28	24	34
3	45	17	20	15	11	19	14	20
4	19	7	15	11	0	0	4	6
5	7	3	5	4	0	0	2	3
6	2	1	2	2	0	0	0	0
7	1	*	1	*	0	0	0	0
Total	259	100	132	100	57	100	70	100
Mean	1.7		1.7		1.5		1.9	

*Less than one per cent.

The actual spatial mobility of the families studied is set forth in Table 20. Complete movement history of each family, from the time the household was established, was taken and tabulated as number of moves. The total number of moves per family is one less than the number of places ever lived.

There were only slight sectional differences in average number of moves of owners. On the whole, the southeastern hilly section showed less movement and the northeastern urbanized section most movement, although the western section had a larger percentage of families which had moved four or more times. With respect to renters, the situation was reversed; i. e., the southeastern section showed the most movement and the northeastern section the least, although again the western section had the highest percentage of households which had moved four or more times. This reversal of the situation with respect to owners and renters may be partly accounted for on the basis of differences in tenure and in age of household. In the southeastern section the inclusion in the sample of a certain number of croppers who lived in Adams County raised the average number of moves for the section. In this section, also, the average age of household was greater than for the other two sections. As will be demonstrated in a later part of this report, there is for renters a significant correlation between number of moves and age of household.

IV. RELATION OF POPULATION MOVEMENT TO CERTAIN VARIABLES

While it is important to know the extent and nature of the occupational and spatial movement occurring among the open country population, it is even more significant to know the relation of these movements to such factors as tenure, age, education, and economic status. In this section, the attempt is made to portray certain of these relationships and their bearing upon the movement of families.

Number of moves and range of movement.—The two chief measures of spatial mobility used in this report are the number of moves which the family had made and the range of their movement. The latter is a crude measure of range of movement (distance) because the groups are unequal, but it is convenient and workable and appears to possess some merit.

It may be seen from Table 21 that, while renters moved more times on the average than owners, there was a relation in both groups between the number of moves and the range of movement.

Those families that had moved about only in the township had moved fewer times than those that had moved about in several townships within the same county. Likewise, those families that had moved about only in the county had moved fewer times, on the average, than those that had moved about in two or more counties[8]. Hence, it may be said that the farm family which has the greatest range of movement (radial distance) has probably also moved the greatest number of times and vice versa[9], and that the probability is greater in the case of renters than owners. This makes possible the substitution of one of these measures of spatial mobility for the other with some degree of precision.

TABLE 21.—Relation of Number of Moves to Range of Movement, by Tenure

Always* lived	Owners			Renters		
	Number households	Number moves	Average moves per household	Number households	Number moves	Average moves per household
On same farm	190	0	0.0	69	0	0.0
In same township	195	254	1.3	70	127	1.8
In same county	130	220	1.7	49	120	2.4
In same state	187	351	1.9	48	131	2.7
All other	102	222	2.2	23	60	2.6
Total	804	1047	1.3	259	438	1.7

*In this and all following tables, unless otherwise designated, these groups are mutually exclusive; i. e. "Same Township" includes only those who had lived on more than one farm in the township since those who had lived on but one farm are tabulated in the previous group; viz, "Same Farm" etc.

Place of birth.—Using for purposes of this analysis 1063 farm households and sorting them by the distance factor (range of movement) it becomes evident that birthplace is an important factor in determining the future location of persons who follow farming as a vocation. This is especially true for the operators, 46 per cent of whom were born in the township in which they were living at the time of the survey. Thirty-seven per cent of the homemakers were living in the township of their birth. Inspection of the data reveals the fact that the difference between the sexes in this respect is due entirely to the preponderance of males living on the farm on which they were born. This phenomenon in turn is a

[8]Put in terms of a correlation coefficient the relation between number of moves and range of movement (distance) is $r=.64$ ($Er=.02\mp$) in the case of owners, and .72 ($Er=.03$) in the case of renters.

[9]Ravenstein concluded with respect to the rural-urban movement that the great majority of migrants moved only a short distance. See "The Laws of Migration," Journal of the Royal Statistical Society, XLVIII, 1885, pp. 167-238. With respect to the movement of open country population this general proposition appears to be equally true inasmuch as the bulk of the open country families have not moved beyond the boundaries of the counties in which they were established. But it should also be added that the families which move some distance appear to proceed by comparatively short jumps; hence, the correlation between number of moves and distance moved.

function of the method of succession upon the land from one generation to the next. The "home" farm usually is occupied by a son rather than by a daughter.

TABLE 22.—Relation of Birthplace of Farmers to Place of Residence Since Formation of Household

Always* lived	On same farm		In township		In county		In state		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Place of birth—Operators										
On same farm	102	41	195	79	217	88	230	93	248	100
In same township	24	10	175	70	210	84	237	95	249	100
In same county	8	5	58	34	126	73	150	87	172	100
In same state	0	0	28	13	52	24	170	77	222	100
All others	3	2	9	7	18	14	31	25	121	100
Total	137	14	465	46	623	62	818	81	1012	100
Place of birth—Homemakers										
On same farm	15	7	132	59	175	78	197	88	224	100
In same township	11	5	136	56	196	80	237	97	245	100
In same county	3	2	48	28	124	73	148	87	171	100
In same state	3	1	30	13	51	23	158	72	218	100
All others	2	2	10	9	16	14	29	26	114	100
Total	34	4	356	33	562	54	769	75	972	100

*See note Table 21.

Table 22 is, specifically, a tabulation of place of residence since formation of the household (usually by marriage) with reference to the birthplace of the principals. It does not take into consideration movements of the principals previous to the formation of the household. It may be computed from Table 22 that 74 per cent of the operators who were born on the farm on which they were living at the time of the study had lived there since marriage; 18 per cent had lived on other farms within the township, 6 per cent had lived on other farms outside the township but within the county, and only 2 per cent had lived outside the county. Of those operators who had always lived on the same farm since marriage, 41 per cent were born on that farm, 79 per cent had not lived outside the township, 88 per cent had not lived outside the county, and 93 per cent had not lived outside the State.

It is clear from this table that the probability is that 80 to 85 per cent of the farm operators and homemakers who are farming in a given county were born in that county and that from 60 to 75 per cent of the operators and homemakers who are farming in a given township were born in that township. Homemakers are less

indigenous to a given local area than operators, and the more local the area taken, the greater the difference between operators and homemakers in this respect.

It can be computed that 85 per cent of the operators who had migrated with their households into a given township were born outside that township; the remaining 15 per cent represented return migration of operators born in the township, but who had lived elsewhere since the formation of their households. Likewise 87 per cent of the homemaker immigration consisted of women born outside the township, the remaining 13 per cent having been born in the township. Other figures available suggest that this proportional migration, in the case of farm population, may hold, under conditions as found in Ohio, regardless of the size of the area. Less than one-sixth of the farm operator migration into an area is counter-migration of persons born in said area. The same may be said for farm homemakers. The percentage of households in which one of the principals was a counter-migrant would be higher.

Substantiation of a previous statement, that persons who remained in agriculture usually resided near their birthplace, is seen in the above figures. Approximately one-half of the operators were living in the township in which they were born, 14 per cent of them on the same farm. Another 16 per cent were born in other townships of the same county, and 19 per cent more in other counties of the State. Most of the latter group came from bordering counties, making a total of approximately 75 per cent of the farm operators who were born within a radius of 25 to 30 miles from their present location. Most persons who emigrated, after formation of their households, from the township of their birth failed to return to the area (township).

Parental occupation.—The proportion of the operators and homemakers of farm and non-farm parentage has been given in Table 7. The discussion here is concerned with the variation of this factor among the various residence groups as given in Table 21. A significant fact brought out here is that the percentage of operators and homemakers of non-farm parentage increased with the distance the households had traveled in coming into the area; for example, 3 per cent of the operators who had always lived on the same farm were of non-farm parentage as compared with 17 per cent of those who came in from outside the State. Since 85 per cent of the migration into an area consisted of persons born outside the area the above facts appear significant. If one were to

retabulate the data of Table 23, excluding those households that returned to the area in which one of the principals was born, the trend in the direction indicated would be even more pronounced. Thus, the probability appears to be that a higher proportion of those farm operators who have lived on a single farm since marriage, or who have lived in but a single township, are of farm parentage than is the case with those operators who have lived at greater distances. The same general rule appears to apply to homemakers, though with somewhat less precision. Of course, the factor of farm inheritance plays an important part in determining this situation.

TABLE 23.—Farmers: Parental Occupation by Place of Residence Since Formation of Household

Occupation of parents	Same farm		Same area		Same county		Same state		All other		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Number and per cent of operators by residence												
Total	248	100	249	100	172	100.0	222	100.0	121	100.0	1012	100.0
Farmer	241	97	241	97	162	94.2	193	86.9	100	82.7	937	92.5
Non-farmer	7	3	8	3	10	5.8	29	13.1	21	17.3	75	7.5
Laborer	6	2	6	2	6	3.6	23	10.4	16	13.2	57	5.7
Farm	0	0	3	1	0	0.0	2	0.9	0	0.0	5	0.5
Other	6	2	3	1	6	3.6	21	9.5	16	13.2	52	5.2
Business	0	0	0	0	2	1.1	4	1.8	4	3.3	10	1.0
Clerical	0	0	0	0	0	0.0	0	0.0	0	0.0	0	0.0
Professional	1	1	2	1	2	1.1	2	0.9	1	0.8	8	0.8
Number and per cent of homemakers by residence												
Total	224	100.0	245	100.0	171	100.0	218	100.0	114	100.0	972	100.0
Farmer	204	91.1	219	89.4	146	85.4	173	79.4	90	79.0	832	85.6
Non-farmer	20	8.9	26	10.6	25	14.6	45	20.6	24	21.0	140	14.4
Laborer	15	6.7	17	6.9	19	11.1	32	14.6	17	14.9	100	10.3
Farm	2	0.9	5	2.0	2	1.1	2	0.9	0	0.0	11	1.1
Other	13	5.8	12	4.9	17	10.0	30	13.7	17	14.9	89	9.2
Business	5	2.2	4	1.7	6	3.5	9	4.1	6	5.2	30	3.1
Clerical	0	0.0	0	0.0	0	0.0	1	0.5	1	0.9	2	0.2
Professional	0	0.0	5	2.0	0	0.0	3	1.4	0	0.0	8	0.8

It should be noted here that this relationship is not due to the high percentage of foreign-born in the northeastern section, since most of them were of farm origin. A suggested explanation is that persons of non-farm origin who enter farming perhaps locate more frequently in regions where they know little of farming conditions, rather than near their birthplace where the conditions are fairly well known to them.

Inheritance of farm as a factor in mobility.—Actual or anticipated inheritance of farm land plays an important role in mobility. Of the 190 owner households that had lived on but one farm, 86 per cent inherited the farm wholly or in part. Only 6 per cent of those

who came into the township from outside the State were living on inherited farms. It can be deduced further from Table 24 that 11 per cent of the owner households that had migrated into the township were living on inherited farms.

TABLE 24.—Owners: Relation of Method of Acquiring Farm to Residence Since Formation of Household

	Place of residence											
	Same farm		Same area		Same County		Same state		All others		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Total	190	100	195	100	130	100	187	100	102	100	804	100
Bought	27	14	113	58	104	80	175	93	96	94	515	64
Inherited	163	86	82	42	26	20	12	7	6	6	289	36
Father	142	75	67	34	21	16	6	3	4	4	240	30
Father-in-law	18	9	15	8	4	3	3	2	2	2	42	5
Other relatives	3	2	0	0	1	1	3	2	0	0	7	1

TABLE 25.—Renters: Kinship to Owners of Farms, by Residence Since Formation of Household

	Place of residence											
	Same farm		Same area		Same County		Same state		All others		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Total	69	100	70	100	49	100	48	100	23	100	259	100
Not related	8	12	38	54	36	73	35	73	16	70	133	51
Related	61	88	32	46	13	27	13	27	7	30	126	49
Son	49	71	23	33	8	17	8	17	2	9	90	35
Son-in-law	8	12	8	11	4	8	4	8	4	17	28	11
Other relatives	4	5	1	2	1	2	1	2	1	4	8	3

A comparable figure for renter households is 27 per cent. Combining the two, i. e., owners who had inherited their farms and renters who were related to their landlords, we find that 14 per cent of the migration of households into the township consisted of actual or prospective heirs to farms located there. In 70 per cent of these households one of the principals of the household had been born in the township, but only 16 per cent of the total number of operators who migrated into the townships were born there. Since 65 per cent of this group were those persons who had returned because of the inheritance of a farm, it follows that 10 per cent of the total number of operators who migrated into the townships (either returning or entering for the first time), or more than half of the return migrants who were born in the townships, were returning because they had inherited a farm in these townships. Hence, it is

clear that inheritance of a farm or the prospect thereof, is of particular importance in influencing families who return to the township where either the operator or homemaker was born, since nearly three-fourths of such families do inherit farms.

Table 25 indicates that the renter is more likely to be a local person than one who has migrated in from outside the township. This is due to the kinship factor, for the unrelated tenant is more likely to be a person who has migrated into the township than the related tenant. Thus, the succession of renter to owner by means of inheritance is clearly shown, since these related renters are owners in prospect.

Age at marriage.—The age at which farmers marry may be regarded as having some bearing upon, or at least some relation to, their movements. In the first place, those persons who had lived on but one farm after marriage had married somewhat later than those who had not. Since these persons often took over the home farm wholly or in part before the parents had retired from it, perhaps they felt less freedom to marry than those who left home. Or, perhaps, as may frequently be the case, care of the parents and parental affection were substituted for marital ties. But be that as it may, both operators and homemakers married later than the average when they remained on the home farm.

In the second place, there is a correlation between age at marriage and the proportion of persons who remained upon the home farm; and, consequently, a correlation between age at marriage and the proportion of persons who remained in the local township, although the second relationship is less significant than the first. Of the persons who married young (before 22 in the case of males and before 19 in the case of females), 14 per cent remained on the home farm. The stability index was also lowest (approximately 65) for these groups when computed on a township basis, showing that they were likely not to locate within the township. Of those persons who married between the ages of 22 and 30 for males and between 19 and 25 for females, the proportion who remained on the home farm and in the township was about average for all ages; but of those persons who married late (over 30 for males and over 25 for females) 32 per cent remained on the home farm and the stability index was much higher than the average, showing the disposition to remain in the local township.

Age of household.—The phrase "age of household" as here used indicates the number of years since the formation of the household; i. e., the first time the operator "set up housekeeping".

This was generally coincident with age at marriage. If the operator had been married twice the age of the household was counted from the date of the formation of his first household. So defined, the age of household was correlated with age of operator, when a lag equal to the average age at marriage was allowed. Since this relationship exists, whatever relationship exists between age of household and mobility applies with considerable force to age of operator as well.

The relation of number of moves to age of household was closer in the case of renters than in the case of owners. In the case of owners there was no significant relation between number of moves and age of household, but in the case of renters the relationship was a significant one[10]. On the other hand, when the range of movement (i. e. maximum radial distance ever moved) was taken as a measure of mobility, the relationship of this factor to age of household was less significant than when number of moves was taken as a measure of mobility[11]. Hence, it may be said that as far as owners are concerned there was no significant relation between age of household and spatial mobility when the latter was measured in terms of either number of moves or radial distance moved. In the case of renters, however, there was a mildly significant relationship, particularly when number of moves was taken as the measure of mobility. A more complete analysis[12] showed that the number of moves made by renters was to a significant degree associated with the age of the household and the distance which the household moved. But in the case of owners, since age of household is associated with neither number of moves made nor radial distance moved, the only significant relationship is that existing between number of moves made and radial distance moved.

The inference to be drawn from the relationship between distance and number of moves is that farm households travel short average distances per move. Hence, the greater the total radial distance moved, the greater the number of moves is likely to be.

---

[10]The correlation coefficients were: Owners, r=.07, Er=.035; renters, r=.45, Er=.05. The standard error is used throughout this publication.

[11]The correlation coefficients were: Owners, r=—.04, Er—=.035; renters, r=.25, Er=.06.

[12]The method of partial and multiple correlation gave the following coefficients:

	Simple r		Partial r	
	Owners	Renters	Owners	Renters
Number of Moves (Xo) with Distance (X_1)	.64	.72	.65	.70
Number of Moves (Xo) with Age of Household (X_2)	.07	.45	.01	.40
Distance (X_1) with Age of Household (X_2)	—.04	.25	.01	—.12

No claims are made for the universality of this relationship, although it holds for all of the sample areas involved in this study, and would probably be true for any sample of the farm population of the State. The proposition has been found to possess considerable validity for the movement of rural population to the large cities (12, 14, and 3).

TABLE 26.—Farmers: Average Number of Years per Residence

Age of household	Farmers					
	Total		Owners		Renters	
	Number cases	Average years per residence	Number cases	Average years per residence	Number cases	Average years per residence
0- 4	60	1.7	10	1.9	50	1.7
5- 9	93	3.5	41	4.2	52	3.1
10-14	155	5.3	108	5.8	47	4.4
15-19	136	7.0	94	7.8	42	5.8
20-24	129	8.6	108	8.9	21	7.3
25-29	128	11.2	110	12.1	18	7.6
30-34	108	12.3	92	12.9	16	9.5
35-39	79	15.0	74	16.5	5	9.4
40-44	79	16.1	75	16.4	4	12.1
45-49	46	19.3	44	19.7	2	13.6
50-54	32	25.8	30	27.6	2	13.1
55 over	18	26.5	18	26.5	.....	.....
Total	1063	10.4	804	12.1	259	5.5

The lower correlations in the case of the owners may be due to several possible factors. Owners are an older group than renters and as a result may not have reported all of their moves since they were reporting for a longer period of time. The fact that there is a higher correlation between number of moves and age of the household in the case of the renters suggests the further possibility that most of the movment is made in the earlier years of life, very little movement occurring after the age of about 40 years. Another factor affecting the correlation in the case of owners is the greater tendency of owners who had always lived on the same farm and in the same township to retire on the farm, thus causing the curve of movement to approach zero in the older age groups. Another possible implication is that much of the apparent relationship between age and number of moves is due to secular trend toward an increasing amount of movement in recent years. The renters being the younger group would in that case show the higher correlation, since many of the older owners became established before the present trend in movement began to evidence itself. For both owners and renters the number of moves in relation to age of household became constant or even showed a disposi-

tion to decline after the age of 40 years or thereabouts[13]. The maximum number of moves reported by both owners and renters was reported by those households which had been established between 35 and 45 years.

TABLE 27.—Owner Households: Number of Moves by Age of Household

Age of household	Number of households	Number of moves	Average moves per household
Under 15 years	159	160	1.0
15–29 years	312	424	1.4
30–44 years	231	352	1.5
45 and over	102	111	1.1
Total	804	1047	1.3

Table 26 shows the average number of years lived in a place for households of various ages. It will be noted that as the age of household increased the average number of years lived in a place also increased. There is evidently a close correlation between age of household and average number of years lived in a place, both for owners and renters, though the correlation is apparently higher for owners than for renters. Furthermore, the relationship holds if those families that had always lived on the same farm be omitted. In spite of the fact that many of the younger households had not existed long enough to indicate the length of time lived in their first place, it appears that the older families had lived longer in a place and hence had moved less than the younger ones. This may be shown more strikingly by combining age groups and tabulating average number of moves. Table 27 shows these data and strongly implies that there was an increase in number of moves as the age of household increased up to about middle life after which the rate of increase in number of moves declined. Thus, there was something of an age cycle of movement. But the fact that the oldest households had moved but slightly more than households less than 15 years of age seems to indicate that either there has been a secular trend toward increase of movement of households during the last 50 years or that those households which had moved most have left the open country entirely, leaving only those households which had during their period of existence moved less than the average. The latter can hardly be an explanation of the situation, however, for it is well known that the bulk of the migration from

[13]In other words, the relation of number of moves to age of household tends to be a curvilinear one. But since the asymptote is reached lower in the distribution in the case of owners than in the case of renters and also shows a greater tendency to decline, (the curvilinear relationship is more pronounced in the case of owners than in the case of renters), this results in a lower linear correlation between number of moves and age of household in the case of owners than in the case of renters.

the rural districts occurs before the age of forty. Or, in terms of the age of household, the bulk of this migration occurs before the household is 20 years old. Such migration would not affect the extent of movement of households which had been established 25 years or more. Furthermore, there is no evidence from the age distribution of the population under consideration that there has been more than the usual amount of migration from the upper age groups. In short, the conclusion that there is a secular trend toward greater mobility of the open country population seems inescapable.

TABLE 28.—Farmers: Median Number of Years on Present Farm by Residence Since Formation of Household

Always lived	Total			Western Section		Northeastern Section		Southeastern Section	
	Total	Owners	Renters	Owners	Renters	Owners	Renters	Owners	Renters
Same farm	21.0	27.4	5.3	25.6	4.7	26.4	8.0	27.1	10.5
Same township	11.8	16.4	3.0	18.1	5.0	16.0	3.0	14.0	2.7
Same county	8.0	0.5	2.7	8.8	4.0	12.0	3.0	11.5	0.9
Same state	7.7	8.7	2.9	10.0	3.0	7.0	3.3	10.0	2.5
All others	5.4	5.8	0.7	9.0	0.8	5.4	2.0	6.0	0.5

Years on present farm.—For some time the number of years on the present farm has been accepted as some measure of the territorial mobility of farmers. Numerous special studies have made use of this measure and since 1910 the United States Census has collected this information from all farmers. Table 30 gives the median number of years spent on the present farm for the native farm operators included in this study. The usual differences in geographic area and tenure groups are to be noted. In addition to these, however, significant differences appear in relation to the mobility of the operators as measured by radial distance ever moved. The number of years on the present farm is correlated with distance, and the relationship between years on the present farm and mobility is closer for owners than for renters[14]. But when the group of owners who have always lived on the same farm (about 25 per cent) is dropped out of the analysis, the correlation in the case of owners is greatly lowered and becomes insignificant. In other words, for owners the number of years on the present farm is a good index of mobility (as measured by radial distance moved) if there is little or no mobility. But the greater the extent of mobility the less significant become years on the present farm as a measure of that mobility.

[14]The correlation coefficients were: Owners, r=—.497, E$_r$=.028; renters, r=—.256, E$_r$=.059.

Once again the age of household may be considered as a factor. In the case of owners, the age of household was correlated with years on the present farm. If owners never moved, the correlation between these two factors would be perfect. There was only slight relation between age of owner households and mobility, however, and consequently when age of household was held constant the relationship between years on the present farm and mobility as measured by radial distance was not much improved[15]. The closest relationship among these factors was obtained between years on the present farm and age of household when the factor of mobility was held constant. This is further evidence that where mobility is high, years on the present farm is a poor measure of it.

Whether this differential rate of movement according to age of household is due to a normal age curve of movement or whether it is due to secular trend is a question of some interest. According to Sorokin (13) there has been an increase in the territorial mobility of the population of the western world, particularly since about 1850. General observation would, of course, tend to substantiate this conclusion. The rapid growth of means of communication and transportation has without doubt increased the extent to which the population moves about with reference to the home, or place of abode, which is more or less a fixed base. Whether or not there has been a proportional shift in place of abode appears not to be as well established, though such increase seems probable. Whether these conclusions apply with equal force to the farm and other open country population is also not established, but it seems probable that they do in a state like Ohio where many large cities are fairly well distributed and where good roads and motor cars have come into such general use among the open country population.

In the case of renters, years on the present farm showed less relationship to distance moved than in the case of owners[16]. This difference was due in part to the factor of age of household, which for renters was significantly related to distance. But even though the correlation between distance and age of household was higher for renters than for owners, correction for age of household did not give as close a relationship for renters as for owners, between years on the present farm and distance. In other words, years on the

---

[15]The following coefficients were obtained:

	Simple r	Partial r
Distance (Xo) with Years on present farm (X_1)	—.50	—.61
Distance (Xo) with Age of Household (X_2)	—.03	.42
Years on present farm (X_1) with Age of Household (X_2)	.63	.71

R 0.12=.617 (Er=.023)

[16]The simple correlation was r=—.256, Er=.059.

present farm is even less a measure of mobility in the case of renters than in the case of owners. Furthermore, because of the age differential it is fallacious to compare owners and renters with respect to number of years on the present farm, taken as a measure of mobility, unless correction for age is made. The fact that a greater correction for age is necessary in the case of renters than in the case of owners makes it inevitable that renters appear more mobile by comparison with owners than is actually the case unless such correction is made.

Years in the township.—Since number of years on the same farm is a poor measure of mobility, the question naturally arises whether the number of years in the community, or township, constitutes a better measure. The correlation coefficient between number of years in the township and mobility as measured by radial distance moved was not significantly higher, however, than when years on the same farm were used. Hence, this factor appears to be no better than years on the same farm, as a measure of mobility.

TABLE 29.—Farmers: Years in Same Township

Years in township	Place of residence since formation of household						Index of stability
	Farm	Township	County	State	All others	Total	
0– 4	38	13	48	74	56	229	29
5– 9	29	22	41	69	30	191	36
10–14	38	37	30	30	19	154	95
15–19	21	29	18	27	10	105	91
20–24	25	35	15	17	4	96	153
25–29	25	33	14	7	3	82	241
30–34	21	25	7	5	1	59	354
35–39	18	22	4	4	1	49	434
40–44	15	19	1	.....	1	36	
45–49	10	20	.....	.....	.....	30	
50–54	15	6	1	.....	.....	22	2450
55–59	3	2	.....	2	.....	7	
60–	1	2	.....	.....	.....	3	
Total	259	265	179	235	125	1063	97
Median	20.8	24.6	10.2	8.2	6.2	13.6	.....
Mean	22.7	25.6	12.9	10.9	8.5	17.5	.....

Analysis of the data with respect to length of time lived in the township and radial distance moved did disclose some interesting facts, however. Table 29 should be studied in this connection. It may be noted from this table, that the radial distance of migration for both owners and renters has greatly increased in recent years, particularly during the last 25 years. Obviously, the mean length of time owners have lived in any specified area is greater than for renters due to the difference in mean age of household. But when

the index of stability (ratio of those families which have always lived in a specified area to those which have not) was applied to owner and renter groups which had been in the township equal lengths of time, it was found that, with the township as the territorial unit, renters possessed greater stability than owners in all groups which had sufficient members to be comparable. Furthermore, the index of stability for all renters was higher than for all owners in spite of the very high stability of owners who had lived in the township forty years or more.

These facts do not mean that renters move less than owners. Earlier in this report it was not only established that when corrected for age renters moved more than owners, but that within a given radius they moved approximately one-third more than owners, when mobility was measured in terms of number of moves. In terms of radial distance moved, however, renters move less than owners. If a local area such as the township be taken as a unit, the probability is that a larger proportion of the owners than of the renters living therein will have lived, at some time since the establishment of the household, outside that area. Or, put conversely, the probability is that a larger proportion of the migrants into the area will be owners than renters. This is another way of stating the more general proposition that renters move within a more restricted area than do owners (6, 11).

Size of farm business.—The size of farm business has been found to possess some significant relationship to the migration of population from the farms to other occupations. Presumably this factor is also related to the shift of farmers within the occupation itself, although the extent of this relationship is not yet understood. Young (19) found that in New York a larger percentage of the operators of small farms had never moved than of the operators of large farms. He found, also, that when size of farm business was measured in terms of acres per farm and mobility was measured in terms of number of years lived on the farm last operated, owners living on small farms (50 acres or less) and owners living on large farms (over 150 acres) were about equally stable, both being more stable than owners of middle sized farms. Tenants, the majority of whom were on large farms, showed greater stability when on large farms than when on small ones. He concluded that the more the farmer "becomes financially involved in farming—the less likely he is to move to another farm". These facts are in substantial agreement with the work of Gray and others (6).

The chief measure of size of farm business used in this study was that of total man work units on crops and animals. This measure has been found in other studies to be closely correlated with total capital (15). Since owners and renters behave differently with respect to mobility, it was necessary to make a separate analysis of these groups. It was found that the median size of business of owners who had always lived on the same farm or in the same township was larger than for those who had experienced greater territorial mobility. The lowest index of stability belonged to those farmers with businesses of less than 100 work units.

TABLE 30.—Owners*: Relation of Total Man Work Units† to Place of Residence Since Formation of Household

Total man work units	Numbers of farms						Index of stability
	Farm	Township	County	State	All others	Total	
0- 99	20	11	15	32	13	91	73
100-199	35	38	33	41	9	156	.....
200-299	35	38	26	29	12	140	105
300-399	14	20	12	16	7	69	.....
400-499	16	13	10	8	6	53	123
500-599	6	3	1	5	1	16	.....
600-699	2	2	1	0	0	5	.....
700-799	1	4	0	1	0	6	300
800-899	0	2	1	0	0	3	.....
900-999	1	0	0	0	0	1	.....
1000 and over	0	0	0	0	0	0	.....
Total	130	131	99	132	48	540	94
Median	229	247	208	183	216	217	.....

*For 540 owners for which data were available.
†A work unit is a measure of work done on crops and animals in terms of a normal day's labor for one man.

Since the results thus obtained for operators with a small farm business are not in agreement with those of the literature previously cited, it is well to inquire why this is so. Analysis of the data by age of owner-operator household reveals the fact that the difference is due to differences in distribution of size of farm business with respect to age. The work of Gray and his colleagues together with the later analysis of the 1920 Census data by Goldenweiser and Truesdell (5) showed that the farms of small acreage were more likely to be in the hands of older operators. The data of the present investigation did not show any such marked concentration however, since the older farmers, who were practically retired, were not included in this analysis. These persons usually possessed a very small business. If included in the analysis, there is reason to believe that they would increase the stability of the group owning small farms.

When the territorial mobility of renters was analyzed with respect to size of farm business, the results were found to be in substantial agreement with the literature cited. The renters were, of course, a younger group than the owners. About 70 per cent of the households had been established less than 20 years. Also, about 70 per cent of those renters who operated a business of 400 or more man work units possessed households which had been established less than 15 years. Thus, there was some indication of concentration of the larger farm businesses in the hands of the younger renters, who had moved less than other renters.

TABLE 31.—Renters*: Total Man Work Units per Farm

Total work units	Farm	Township	County	State	All others	Total	Index of stability
0- 99	2	5	5	2	1	15	104
100-299	8	17	15	5	0	45	.....
200-299	12	18	11	12	4	57	102
300-399	11	8	7	12	2	40	.....
400-499	7	5	3	1	0	16	237
500-599	4	3	2	1	1	11	.....
600-699	1	0	1	3	0	5	.....
700-799	0	1	0	0	0	1	40
800-899	0	0	0	0	0	0	.....
900-999	0	0	0	0	0	0	.....
1000 and over	0	1	0	3	0	4	.....
Total	45	58	44	39	8	194	113
Median	309	239	218	308	275	282	.....

*For 194 renters for whom information was available.

The above inference is strengthened when the measures of territorial mobility are applied directly to renters, Table 31. The index of stability for renters having a farm business of 400 or more man work units was 147, well above the average for all renters. The index of stability for renters having a farm business of 400-600 man work units was 237, or more than twice the index for all renters. The fact that those renters operating a business of 600 or more work units showed a very low index of stability hardly invalidates the general conclusion to be drawn from these figures, since the number of cases in this group is very small.

As further evidence on this point, the number of moves of all renters who operated a business of 400 or more work units were tabulated. It was found that these renters averaged 1.5 moves per household. This is a smaller average number of moves than the average for any other group of renters except those who had always lived on the same farm.

Schooling of operator.—The extent to which education, as measured by number of grades in school completed, is related to territorial mobility within the occupation of farming is unknown.

Various studies have indicated that there is some relation between degree of education and the urbanward migration which accompanies the selection of a non-agricultural occupation.

In the case of both owners and renters there was indication of fewer moves among the better educated farmers. Because of the age factor this relationship was more apparent than real, however. For, while number of moves and age of household are not correlated in the case of owners, in the case of renters these two factors were correlated. Consequently, while the relationship between number of moves and education was probably a real and significant one in the case of owners, in the case of renters it was largely, if not wholly, a case of the younger tenants who had had little chance to move having the most schooling.

Analysis of the data with respect to schooling and radial distance moved showed no significant relationship.

Organization membership.—It has long been believed by many that tenancy in the United States represents a condition inherently unfavorable to the development of neighborhood and community life. It has been repeatedly pointed out that tenants belong to fewer organizations and take part in fewer organized activities than owners, and this difference has been charged, to a considerable degree, to the greater mobility of the tenants. It is becoming increasingly clear, however, that although renters move more times than owners, they are less likely to move a sufficient distance to necessitate the breaking of community ties (6). Furthermore, the fact that such a high percentage of renters become owners and thereafter increase their participation in organized activities sufficiently to maintain the class difference, is good ground for the inference that some of the difference between owners and renters with respect to their participation in local organized activities is due to differences in age, wealth, and other considerations which are not the results of, though they may be correlated with, mobility. For example, Kirkpatrick and others (7) found a small but significant correlation (.28) between the gross cash farm income of the family and the number of organizations with which the family was affiliated. A more significant correlation (.40) was obtained between number of periodicals taken and number of organizations with which the family was affiliated. Hence, it may be that affiliation with local organizations is associated with cultural development which may be said to be the result, in large part, of wealth and education. Probably one should be cautious about accounting for renters' low organization participation solely on the ground of mobility.

When owners and renters were separated and sorted with respect to organization membership and territorial mobility, it was found that renters were less affiliated with local organizations than were owners. Not only did a smaller percentage of renters belong to organizations, but those renters who did belong to organizations averaged fewer memberships per family than owner families who belonged. Furthermore, the families with least mobility possessed the largest number of organization memberships. Apparently mobility affected both owners and renters similarly; it reduced their affiliation with local organizations and institutions. This effect of mobility was more uniform and convincing in the case of owners than in the case of renters, and it seems questionable whether the territorial mobility of renters is as closely related to their organization membership as it is in the case of owners.

TABLE 32.—Native Owners and Renters: Number of Organizations With Which Households Were Affiliated*

	Farm	Township	County	State	All others	Total
Owners						
Total households	186	194	129	158	56	723
Memberships	201	225	112	141	42	721
Per 100 households	108	116	97	89	75	99
Per cent having membership	79	83	70	72	52	75
Renters						
Total households	69	70	49	47	16	251
Memberships	69	46	44	26	12	197
Per 100 households	100	66	90	55	75	76
Per cent having membership	75	57	75	43	50	60
Membership per 100 households affiliated with at least one organization						
Owner	137	140	125	124	145	133
Renter	133	115	119	130	150	126

*Affiliation implies membership of one or more individuals of the household in an organization. Included in the tabulation are the Grange, Farm Bureau, Lodges, Church, and any other Social Organizations or Clubs.

Occupational change and territorial mobility.—Table 33 shows the relationship between change in occupation and territorial mobility as measured by radial range of movement and number of moves made. The total number of open country households studied was first sorted into three occupational groups: 1, those that had always farmed; 2, those that had shifted from farming to another occupation, or vice versa, or both; and 3, those that had never farmed. When each of these three groups was sorted by radial distance moved, it was found that the group that had always farmed showed greatest stability and the group that had both

TABLE 33.—Relation of Occupational Changes to Mobility

Occupation	Place of residence												Index of stability
	Same farm		Same township		Same county		Same state		All others		Total		
	No. cases	Av. No. moves	No. cases	Av. No. moves	No. cases	Av. No. moves	No. cases	Av. No. moves	No. cases	Av. No. moves	No. cases	Av. No. moves	
Always farmed	259	0	234	1.3	133	2.0	114	2.1	41	1.9	781	1.2	171
Farm and non-farm	4	0	48	1.7	54	2.0	131	2.1	94	2.4	331	2.1	19
Never farmed	51	0	32	1.4	29	1.9	32	1.7	19	1.9	163	1.2	103
Total	314	0	314	1.4	216	1.9	277	2.0	154	2.3	1275	1.4	97

farmed and worked at other occupations showed least stability. When these three groups were sorted according to number of moves made by the households since formation, the same general results were obtained.

Since these relationships also hold substantially for both owners and renters, it must be concluded that inter-occupational shifting is not conducive to population stability. The population which stays wholly within the occupation of farming possesses the greatest stability; while the population which divides its occupational history between farming and non-farming occupations possesses the least stability.

SUMMARY

This bulletin is based on a study of 1275 open country households in eight sample areas of Ohio. Eighty-two per cent of the households were farming, and 61 per cent had never done anything else but farm.

The evidence indicates that both spatial and occupational mobility of the farm population have been on the increase during the last fifty years. In spite of this the farm population is still a very stable one. Ninety-three per cent of the farm operators were born in the open country and were the sons of farmers. Forty-six per cent were born in the township, and 62 per cent in the county in which they were living when surveyed. Approximately one-fourth of the households had since formation resided on the same farm, one-half in the same township, and two-thirds in the same county.

Owner households had moved an average of 1.3 times; renters 1.7 times. Within a given radius renters moved about 30 per cent more often than owners. There was a significant positive correlation between number of moves and radial distance moved.

Inheritance of farm property is a factor which increases population stability.Eighty-six per cent of those households that had always lived on the same farm had inherited the farm, wholly or in part. Eighty-seven per cent of these had inherited from the operator's parents.

Farmers who inherited the home farm and operated it married somewhat later than those who farmed elsewhere.

In the case of renters, there was a significant positive correlation between mobility and age of household. No such correlation existed for owners.

Years on the present farm were significantly correlated with mobility, but the correlation was not sufficiently high to render this factor a good measure of mobility. It was less significant for renters than for owners. Years in the township proved to be no better as a measure of mobility.

Size of farm business is a factor in mobility. There was least territorial mobility among those farmers who operated the largest farm business and most among those who operated the smallest business.

There was slight evidence that schooling is a significant factor in the mobility of owners; it did not appear to be related to the mobility of renters.

Mobility apparently decreases affiliation with local organizations, but since it appears to affect both owners and renters alike, it seems probable that factors other than mobility account for the difference between owners and renters with respect to organization membership.

Shifts from one occupation to another tend to increase mobility. The greatest stability of population is to be found among those households that have never tried any occupation but farming. Thus, the greatest shifts in open country populations both in space and occupation have been taking place in the urbanized sections around large cities. This is especially true in the northeastern section of the State where the population is 84 per cent urban.

BIBLIOGRAPHY

1. Bean, L. H. Farm Income, Business Activity, and Population Movement. The Agricultural Situation. 13: No. 5, 20-23. 1929.
2. Galpin, C. J. Analysis of Migration to and from Farms. U. S. D. A. Bureau of Agricultural Economics. Mimeograph, 1927. Part II.
3. Gee, W. and Corson, J. J. Rural Depopulation in Certain Tidewater and Piedmont areas in Virginia. University of Virginia, Institute for Research in the Social Sciences, Monograph No. 3, 34-35. 1929.
4. Gillette, R. A Study of Farm Labor in Seneca County, New York. Agricultural Bulletin, No. 164. Albany, 1924.
5. Goldenweiser, E. A. and Truesdell, L. C. Farm Tenancy in the United States. U. S. Bureau of the Census, Monograph IV. 99, 155. 1924.
6. Gray, L. C. and Others. Farm Ownership and Tenancy. U. S. D. A. Yearbook, 528, 596-7. 1923.
7. Kirkpatrick, E. L., Inge, Creasch, Wileden, A. F., and Kolb, J. H. Rural Organizations and the Farm Family. Wisconsin Agr. Exp. Sta. Bull. 96, 54. 1929.
8. Lively, C. E. and Beck, P. G. Movement of Open Country Population in Two Townships of Northwestern Ohio. Ohio State Univ. Rural Sociology Mimeograph Bulletin No. 3. 1928.
9. Lively, C. E. and Beck, P. G. Movement of Open Country Population in Three Townships of Northeastern Ohio. Ohio Agr. Exp. Sta. Rural Sociology Mimeograph Bulletin No. 4. 1928.
10. Lively, C. E. and Beck, P. G. Movement of Open Country Population in Three Townships of Southeastern Ohio. Ohio Agr. Exp. Station Rural Sociology Mimeograph Bulletin No. 5. 1929.
11. Rankin, J. C. Nebraska Farm Tenancy. Nebraska Agr. Exp. Sta. Bull. 196, 16, 19-20. 1923.
12. Ravenstein, E. G. The Laws of Migration. Journal of The Royal Statistical Society. **XLVIII**: 167-238. 1885.
13. Sorokin, P. Social Mobility. Chaps. 16-19, 20-22, pp. 381-389, 419-424. 1927.
14. Sorokin, P. and Zimmerman, C. C. Principles of Rural-Urban Sociology. Chaps. 23-26. 1929.
15. Stephens, P. H. Farm Economics. Cornell University Bulletin No. 64, 1271. Feb. 1930.
16. Truesdell, L. C. Farm Population of the United States, 1920. Census Monograph VI, Chap. 5 and Footnote p. 67. 1926.
17. Vogt, P. L. Introduction to Rural Sociology. 141. 1917.
18. Whelpton, P. K. Population of the United States 1925 to 1975. American Journal of Sociology, 34: 265. 1928.
19. Young, E. C. The Movement of Farm Population. Cornell Agr. Exp. Sta. Bull. No. 42, 46-47. 1923.
20. Zimmerman, C. C. The Migration to Towns and Cities. American Journal of Sociology, 32: 451. 1926.

This page intentionally blank.

This page intentionally blank.